Case study
Rhine-Sieg Public Transport Company (RSVG)

»For our new, computer-supported transport control system we had to have an extremely high-performing and robust IT platform to give our passengers continuous information in real-time. The CELSIUS work stations and PRIMERGY servers from Fujitsu fulfilled these needs.«

Andreas Sewe, Project Leader ITCS, Rhine-Sieg Public Transport Company

The Customer

Rhine-Sieg Public Transport Company (RSVG) services 62 bus lines in the Rhine-Sieg District/Bonn (North Rhine-Wesfalia) region. With 445 employees, RSVG moves more than 30 million passengers annually.

www.rsvg.de

The Challenge

Creation of a high performance and robust IT infrastructure as the basis for a new control center as well as an intermodal transport control system (ITCS).

The Solution

PRIMERGY RX300 S6 servers (virtualized with VMware vSphere) combined with an EXTERNUS DX80 storage system, along with CELSIUS work stations from Fujitsu.

More comfort for passengers in Bonn and the Rhine-Sieg District

The Rhine-Sieg District is the 12th largest district in the German state of North Rhine-Westfalia. In this region, the Rhine-Sieg Public Transport Company (RSVG), along with its subsidiaries Rhine-Sieg District Bus and Train Transport Company (BBV) and Rhine Right Bank Bus Transport Company (RBV), stands as an important pillar of local public transportation. Nearly 300 regularly scheduled busses are on the road for RSVG. To make using the company's services more comfortable for nearly 30 million passengers annually, as well as improving security, the transport company planned to introduce a computer-supported transport control system.

Passenger information in real-time

Visible characteristics of the new intermodal transport control system (ITCS) are the electronic arrival boards at bus stops. Passengers can see exactly how many minutes remain until their bus is expected to arrive. People waiting to raid can also be informed in real-time about any possible breakdowns or unplanned delays. To install the computer-supported transport control system, RSVG built a new central control unit that regulates data exchange with the busses and stops. "The special computers on board the vehicles and the arrival board technology at the stops come from two specialist suppliers," says Andreas Sewe, Project Leader ITCS at RSVG. "We had a separate tender process for the hardware in the control center and the data center. The high-performance systems from Fujitsu, with their very good price-performance ratio, were the most convincing." Delivery and installation of the PRIMERGY RX300 S6 server plus the ETERNUS DX80 storage system and the work stations was undertaken by the Fujitsu SELECT Expert Partner GEDAKO (Gesellschaft für Daten- und Kommunikationstechnik mbH), of Hennef, Germany. "GEDAKO did a super job," says Sewe. "They were always available, whether during the work week or on the weekend, and took care of every request immediately."

The Benefit

- Reduced administrative load
- High-performance server environment
- High degree of failure resistance
- Reduced energy costs thanks to frugal systems

Products and Services

- Servers: 8 PRIMERGY RX300 S6
- Storage system: 1 ETERNUS DX80
- Work stations: 4 CELSIUS W
- PCs: 3 ESPRIMO P
- PCs: 2 ESPRIMO Q
- Displays: 16 Fujitsu SL 23"
- Manageability software: Fujitsu ServerView
- Virtualization software: VMware vSphere

More comfort and security for passengers

"For passengers, it's important to receive current data," says Sewe. "Especially in winter, or when it's raining, it's very good to know exactly when the next bus is coming. I also want to be informed about delays – and this system can accomplish all of those tasks." The Rhine-Sieg Public Transport Company has already equipped 242 busses with the ITCS technology; the rest are currently being retooled. If one considers that the RSVG's busses travel millions of kilometers annually, then it is easy to see what enormous amounts of data come together in the system. "Every day, the vehicles connect with the clients in the control center and send their current GPS coordinates to the system every 20 seconds," says Sewe. "That information is used to update the timetables at the bus stops, which are thus done in real time. Another important aspect is improved security. The new control technology lets us get to a broken down vehicle faster, when necessary, because we always know exactly where they are."

Thin data center thanks to virtualization

"To work with this large amount of data, we needed, on the one hand, new servers in our data center and, beyond that, strong computing power in the control center," explains Sewe. For that reason, RSVG chose to acquire four W-Series CELSIUS work stations from Fujitsu. These systems convince buyers with their thriftiness and extremely quiet operations (18 dB). The basis for the ITCS technology comes from a comprehensive database for which RSVG expanded its data center in its central administration in Troisdorf-Sieglar, Germany. Gerd Kern is the administrator responsible for watching over the system. "For security reasons, the ITCS system runs separately from the other networks, such as our ticket sales system, on dedicated virtualized servers," he says. Kern values the advantages of virtualization. "It makes my job a lot easier, because I do not have to monitor as much hardware, and I can react faster."

More flexibility and greater security against failures

The basic elements of the reliable and high-performance platform are provided by Fujitsu PRIMERGY servers, as well as the accompanying ETERNUS DX80 storage system, which is connected to the servers via fast FibreChannel technology. All in all, Kern is extremely pleased.

"The PRIMERGY RX300 S6 servers run very reliably and deliver the real-time performance we need for our databases. The high-quality processing done by the Fujitsu servers and storage systems are real signs of quality. Securely saving customer and operational data is hugely important for us as a transport company."

The use of VMware on the PRIMERGY RX300 S6 servers increases the high availability enormously. "We are presently only using 50 percent of the servers' capacity," explains Kern. "When a server fails, the VMware regulates the fail-over, so that other systems can make up for the loss. This flexibility also makes me more independent with maintenance work. We don't have down time anymore." The manageability software from Fujitsu, which is part of the package, contributes further to high availability. "I regularly use ServerView to diagnose the PRIMERGY systems," says Kern. "The RAID-manager is also an integral part of my daily admin work. I really like the clarity – via ServerView I have all of the servers and storage systems in view via one console."

Fully prepared for additional extension

RSVG is planning additional extensions to its services for passengers. In the near future, the system's data about its status will be available to be called up from a smartphone app. With the app, the company will be able to inform its customers even more directly. The hardware from Fujitsu ensures that the company is fully prepared for any additional extensions.

Partner

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